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<110> Metabasis Therapeutics, Inc.
Sun, William

<120> Organic Anion Transporter Genes and Proteins

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ttaattactt tttctttgta atttttctct ctgtatatTT taaacaaata gctggtatag	2460
tttacaatat tataaagata ttgttcaaat tgaagggcaa aggccagggt cagcaatttt	2520
caaactgtat gtacatttaa taaaataact ataaattaaa aaattatatt tcaaatgatg	2580
tgactaataa atgaaagtac atatagtagt aaagtaattt caggcaaacc tatataacca	2640
aaatataaac tttcatttta aacagcaaaa aaaaaaaaaa aaaa	2684

<210> 7
 <211> 550
 <212> PRT
 <213> Homo sapiens

<400> 7

Met Ala Phe Asn Asp Leu Leu Gln Gln Val Gly Gly Val Gly Arg Phe
 1 5 10 15

Gln Gln Ile Gln Val Thr Leu Val Val Leu Pro Leu Leu Leu Met Ala
 20 25 30

Ser His Asn Thr Leu Gln Asn Phe Thr Ala Ala Ile Pro Thr His His
 35 40 45

Cys Arg Pro Pro Ala Asp Ala Asn Leu Ser Lys Asn Gly Gly Leu Glu
 50 55 60

Val Trp Leu Pro Arg Asp Arg Gln Gly Gln Pro Glu Ser Cys Leu Arg
 65 70 75 80

Phe Thr Ser Pro Gln Trp Gly Leu Pro Phe Leu Asn Gly Thr Glu Ala
 85 90 95

Asn Gly Thr Gly Ala Thr Glu Pro Cys Thr Asp Gly Trp Ile Tyr Asp
 100 105 110

Asn Ser Thr Phe Pro Ser Thr Ile Val Thr Glu Trp Asp Leu Val Cys
 115 120 125

Ser His Arg Ala Leu Arg Gln Leu Ala Gln Ser Leu Tyr Met Val Gly
 130 135 140

Val Leu Leu Gly Ala Met Val Phe Gly Tyr Leu Ala Asp Arg Leu Gly
 145 150 155 160

Arg Arg Lys Val Leu Ile Leu Asn Tyr Leu Gln Thr Ala Val Ser Gly
 165 170 175

Thr Cys Ala Ala Phe Ala Pro Asn Phe Pro Ile Tyr Cys Ala Phe Arg
 180 185 190

Leu Leu Ser Gly Met Ala Leu Ala Gly Ile Ser Leu Asn Cys Met Thr
 195 200 205

Leu Asn Val Glu Trp Met Pro Ile His Thr Arg Ala Cys Val Gly Thr
 210 215 220

Leu Ile Gly Tyr Val Tyr Ser Leu Gly Gln Phe Leu Leu Ala Gly Val
 225 230 235 240

Ala Tyr Ala Val Pro His Trp Arg His Leu Gln Leu Leu Val Ser Ala
 245 250 255

Pro Phe Phe Ala Phe Phe Ile Tyr Ser Trp Phe Phe Ile Glu Ser Ala
 260 265 270

Arg Trp His Ser Ser Ser Gly Arg Leu Asp Leu Thr Leu Arg Ala Leu
 275 280 285

Gln Arg Val Ala Arg Ile Asn Gly Lys Arg Glu Glu Gly Ala Lys Leu
 290 295 300

Ser Met Glu Val Leu Arg Ala Ser Leu Gln Lys Glu Leu Thr Met Gly
 305 310 315 320

Lys Gly Gln Ala Ser Ala Met Glu Leu Leu Arg Cys Pro Thr Leu Arg
 325 330 335

His Leu Phe Leu Cys Leu Ser Met Leu Trp Phe Ala Thr Ser Phe Ala
 340 345 350

Tyr Tyr Gly Leu Val Met Asp Leu Gln Gly Phe Gly Val Ser Ile Tyr
 355 360 365

Leu Ile Gln Val Ile Phe Gly Ala Val Asp Leu Pro Ala Lys Leu Val
 370 375 380

Gly Phe Leu Val Ile Asn Ser Leu Gly Arg Arg Pro Ala Gln Met Ala
 385 390 395 400

Ala Leu Leu Leu Ala Gly Ile Cys Ile Leu Leu Asn Gly Val Ile Pro
 405 410 415

Gln Asp Gln Ser Ile Val Arg Thr Ser Leu Ala Val Leu Gly Lys Gly
 420 425 430

Cys Leu Ala Ala Ser Phe Asn Cys Ile Phe Leu Tyr Thr Gly Glu Leu
 435 440 445

Tyr Pro Thr Met Ile Arg Gln Thr Gly Met Gly Met Gly Ser Thr Met
 450 455 460

Ala Arg Val Gly Ser Ile Val Ser Pro Leu Val Ser Met Thr Ala Glu
 465 470 475 480

Leu Tyr Pro Ser Met Pro Leu Phe Ile Tyr Gly Ala Val Pro Val Ala
 485 490 495

Ala Ser Ala Val Thr Val Leu Leu Pro Glu Thr Leu Gly Gln Pro Leu
 500 505 510

Pro Asp Thr Val Gln Asp Leu Glu Ser Arg Lys Gly Lys Gln Thr Arg
 515 520 525

Gln Gln Gln Glu His Gln Lys Tyr Met Val Pro Leu Gln Ala Ser Ala
 530 535 540

Gln Glu Lys Asn Gly Leu
 545 550

<210> 8
 <211> 546
 <212> PRT
 <213> Homo sapiens

<400> 8

Met Gly Phe Glu Glu Leu Leu Glu Gln Val Gly Gly Phe Gly Pro Phe
 1 5 10 15

Gln Leu Arg Asn Val Ala Leu Leu Ala Leu Pro Arg Val Leu Leu Pro
 20 25 30

Leu His Phe Leu Leu Pro Ile Phe Leu Ala Ala Val Pro Ala His Arg
 35 40 45

Cys Ala Leu Pro Gly Ala Pro Ala Asn Phe Ser His Gln Asp Val Trp
 50 55 60

Leu Glu Ala His Leu Pro Arg Glu Pro Asp Gly Thr Leu Ser Ser Cys

65		70		75		80
Leu Arg Phe Ala Tyr Pro Gln Ala Leu Pro Asn Thr Thr Leu Gly Glu						
	85			90		95
Glu Arg Gln Ser Arg Gly Glu Leu Glu Asp Glu Pro Ala Thr Val Pro						
	100			105		110
Cys Ser Gln Gly Trp Glu Tyr Asp His Ser Glu Phe Ser Ser Thr Ile						
	115			120		125
Ala Thr Glu Trp Asp Leu Val Cys Glu Gln Lys Gly Leu Asn Arg Ala						
	130			135		140
Ala Ser Thr Phe Phe Phe Ala Gly Val Leu Val Gly Ala Val Ala Phe						
	145			150		155
						160
Gly Tyr Leu Ser Asp Arg Phe Gly Arg Arg Arg Leu Leu Leu Val Ala						
				165		170
						175
Tyr Val Ser Thr Leu Val Leu Gly Leu Ala Ser Ala Ala Ser Val Ser						
	180			185		190
Tyr Val Met Phe Ala Ile Thr Arg Thr Leu Thr Gly Ser Ala Leu Ala						
	195			200		205
Gly Phe Thr Ile Ile Val Met Pro Leu Glu Leu Glu Trp Leu Asp Val						
	210			215		220
Glu His Arg Thr Val Ala Gly Val Leu Ser Ser Thr Phe Trp Thr Gly						
	225			230		235
						240
Gly Val Met Leu Leu Ala Leu Val Gly Tyr Leu Ile Arg Asp Trp Arg						
				245		250
						255
Trp Leu Leu Leu Ala Val Thr Leu Pro Cys Ala Pro Ser Ile Leu Ser						
	260			265		270
Leu Trp Trp Val Pro Glu Ser Ala Arg Trp Leu Leu Thr Gln Gly His						
	275			280		285
Val Lys Glu Ala His Arg Tyr Leu Leu His Cys Ala Arg Leu Asn Gly						

290	295	300
Arg Pro Val Cys Glu Asp Ser Phe Ser Gln Glu Ala Val Ser Lys Val 305 310 315 320		
Ala Ala Gly Glu Arg Val Val Arg Arg Pro Ser Tyr Leu Asp Leu Phe 325 330 335		
Arg Thr Pro Arg Leu Arg His Ile Ser Leu Cys Cys Val Val Val Trp 340 345 350		
Phe Gly Val Asn Phe Ser Tyr Tyr Gly Leu Ser Leu Asp Val Ser Gly 355 360 365		
Leu Gly Leu Asn Val Tyr Gln Thr Gln Leu Leu Phe Gly Ala Val Glu 370 375 380		
Leu Pro Ser Lys Leu Leu Val Tyr Leu Ser Val Arg Tyr Ala Gly Arg 385 390 395 400		
Arg Leu Thr Gln Ala Gly Thr Leu Leu Gly Thr Ala Leu Ala Phe Gly 405 410 415		
Thr Arg Leu Leu Val Ser Ser Asp Met Lys Ser Trp Ser Thr Val Leu 420 425 430		
Ala Val Met Gly Lys Ala Phe Ser Glu Ala Ala Phe Thr Thr Ala Tyr 435 440 445		
Leu Phe Thr Ser Glu Leu Tyr Pro Thr Val Leu Arg Gln Thr Gly Met 450 455 460		
Gly Leu Thr Ala Leu Val Gly Arg Leu Gly Gly Ser Leu Ala Pro Leu 465 470 475 480		
Ala Ala Leu Leu Asp Gly Val Trp Leu Ser Leu Pro Lys Leu Thr Tyr 485 490 495		
Gly Gly Ile Ala Leu Leu Ala Ala Gly Thr Ala Leu Leu Leu Pro Glu 500 505 510		
Thr Arg Gln Ala Gln Leu Pro Glu Thr Ile Gln Asp Val Glu Arg Lys 515 520 525		

Ser Ala Pro Thr Ser Leu Gln Glu Glu Glu Met Pro Met Lys Gln Val
530 535 540

Gln Asn
545

<210> 9
<211> 538
<212> PRT
<213> Homo sapiens

<400> 9

Met Gly Phe Glu Glu Leu Leu Glu Gln Val Gly Gly Phe Gly Pro Phe
1 5 10 15

Gln Leu Arg Asn Val Ala Leu Leu Ala Leu Pro Arg Val Leu Leu Pro
20 25 30

Leu His Phe Leu Leu Pro Ile Phe Leu Ala Ala Val Pro Ala His Arg
35 40 45

Cys Ala Leu Pro Gly Ala Pro Ala Asn Phe Ser His Gln Asp Val Trp
50 55 60

Leu Glu Ala His Leu Pro Arg Glu Pro Asp Gly Thr Leu Ser Ser Cys
65 70 75 80

Leu Arg Phe Ala Tyr Pro Gln Ala Leu Pro Asn Thr Thr Leu Gly Glu
85 90 95

Glu Arg Gln Ser Arg Gly Glu Leu Glu Asp Glu Pro Ala Thr Val Pro
100 105 110

Cys Ser Gln Gly Trp Glu Tyr Asp His Ser Glu Phe Ser Ser Thr Ile
115 120 125

Ala Thr Glu Trp Asp Leu Val Cys Glu Gln Lys Gly Leu Asn Arg Ala
130 135 140

Ala Ser Thr Phe Phe Phe Ala Gly Val Leu Val Gly Ala Val Ala Phe
145 150 155 160

Gly Tyr Leu Ser Asp Arg Phe Gly Arg Arg Arg Leu Leu Leu Val Ala
 165 170 175

Tyr Val Ser Thr Leu Val Leu Gly Leu Ala Ser Ala Ala Ser Val Ser
 180 185 190

Tyr Val Met Phe Ala Ile Thr Arg Thr Leu Thr Gly Ser Ala Leu Ala
 195 200 205

Gly Phe Thr Ile Ile Val Met Pro Leu Glu Leu Glu Trp Leu Asp Val
 210 215 220

Glu His Arg Thr Val Ala Gly Val Leu Ser Ser Thr Phe Trp Thr Gly
 225 230 235 240

Gly Val Met Leu Leu Ala Leu Val Gly Tyr Leu Ile Arg Asp Trp Arg
 245 250 255

Trp Leu Leu Leu Ala Val Thr Leu Pro Cys Ala Pro Ser Ile Leu Ser
 260 265 270

Leu Trp Trp Val Pro Glu Ser Ala Arg Trp Leu Leu Thr Gln Gly His
 275 280 285

Val Lys Glu Ala His Arg Tyr Leu Leu His Cys Ala Arg Leu Asn Gly
 290 295 300

Arg Pro Val Cys Glu Asp Ser Phe Ser Gln Glu Ala Val Ser Lys Val
 305 310 315 320

Ala Ala Gly Glu Arg Val Val Arg Arg Pro Ser Tyr Leu Asp Leu Phe
 325 330 335

Arg Thr Pro Arg Leu Arg His Ile Ser Leu Cys Cys Val Val Val Trp
 340 345 350

Phe Gly Val Asn Phe Ser Tyr Tyr Gly Leu Ser Leu Asp Val Ser Gly
 355 360 365

Leu Gly Leu Asn Val Tyr Gln Thr Gln Leu Leu Phe Gly Ala Val Glu
 370 375 380

Leu Pro Ser Lys Leu Leu Val Tyr Leu Ser Val Arg Tyr Ala Gly Arg

385 390 395 400
 Arg Leu Thr Gln Ala Gly Thr Leu Leu Gly Thr Ala Leu Ala Phe Gly
 405 410 415
 Thr Arg Leu Leu Val Ser Ser Asp Met Lys Ser Trp Ser Thr Val Leu
 420 425 430
 Ala Val Met Gly Lys Ala Phe Ser Glu Ala Ala Phe Thr Thr Ala Tyr
 435 440 445
 Leu Phe Thr Ser Glu Leu Tyr Pro Thr Val Leu Arg Gln Thr Gly Met
 450 455 460
 Gly Leu Thr Ala Leu Val Gly Arg Leu Gly Gly Ser Leu Ala Pro Leu
 465 470 475 480
 Ala Ala Leu Leu Asp Gly Val Trp Leu Ser Leu Pro Lys Leu Thr Tyr
 485 490 495
 Gly Gly Ile Ala Leu Leu Ala Ala Gly Thr Ala Leu Leu Leu Pro Glu
 500 505 510
 Thr Arg Gln Ala Gln Leu Pro Glu Thr Ile Gln Asp Val Glu Arg Lys
 515 520 525
 Arg Asp Gly Ala Lys Glu Arg Thr Ser Ile
 530 535

 <210> 10
 <211> 542
 <212> PRT
 <213> Homo sapiens

 <400> 10
 Met Thr Phe Ser Glu Ile Leu Asp Arg Val Gly Ser Met Gly His Phe
 1 5 10 15
 Gln Phe Leu His Val Ala Ile Leu Gly Leu Pro Ile Leu Asn Met Ala
 20 25 30
 Asn His Asn Leu Leu Gln Ile Phe Thr Ala Ala Thr Pro Val His His
 35 40 45

Cys Arg Pro Pro His Asn Ala Ser Thr Gly Pro Trp Val Leu Pro Met
50 55 60

Gly Pro Asn Gly Lys Pro Glu Arg Cys Leu Arg Phe Val His Pro Pro
65 70 75 80

Asn Ala Ser Leu Pro Asn Asp Thr Gln Arg Ala Met Glu Pro Cys Leu
85 90 95

Asp Gly Trp Val Tyr Asn Ser Thr Lys Asp Ser Ile Val Thr Glu Trp
100 105 110

Asp Leu Val Cys Asn Ser Asn Lys Leu Lys Glu Met Ala Gln Ser Ile
115 120 125

Phe Met Ala Gly Ile Leu Ile Gly Gly Leu Val Leu Gly Asp Leu Ser
130 135 140

Asp Arg Phe Gly Arg Arg Pro Ile Leu Thr Cys Ser Tyr Leu Leu Leu
145 150 155 160

Ala Ala Ser Gly Ser Gly Ala Ala Phe Ser Pro Thr Phe Pro Ile Tyr
165 170 175

Met Val Phe Arg Phe Leu Cys Gly Phe Gly Ile Ser Gly Ile Thr Leu
180 185 190

Ser Thr Val Ile Leu Asn Val Glu Trp Val Pro Thr Arg Met Arg Ala
195 200 205

Ile Met Ser Thr Ala Leu Gly Tyr Cys Tyr Thr Phe Gly Gln Phe Ile
210 215 220

Leu Pro Gly Leu Ala Tyr Ala Ile Pro Gln Trp Arg Trp Leu Gln Leu
225 230 235 240

Thr Val Ser Ile Pro Phe Phe Val Phe Phe Leu Ser Ser Trp Trp Thr
245 250 255

Pro Glu Ser Ile Arg Trp Leu Val Leu Ser Gly Lys Ser Ser Lys Ala
260 265 270

Leu Lys Ile Leu Arg Arg Val Ala Val Phe Asn Gly Lys Lys Glu Glu
 275 280 285

Gly Glu Arg Leu Ser Leu Glu Glu Leu Lys Leu Asn Leu Gln Lys Glu
 290 295 300

Ile Ser Leu Ala Lys Ala Lys Tyr Thr Ala Ser Asp Leu Phe Arg Ile
 305 310 315 320

Pro Met Leu Arg Arg Met Thr Phe Cys Leu Ser Leu Ala Trp Phe Ala
 325 330 335

Thr Gly Phe Ala Tyr Tyr Ser Leu Ala Met Gly Val Glu Glu Phe Gly
 340 345 350

Val Asn Leu Tyr Ile Leu Gln Ile Ile Phe Gly Gly Val Asp Val Pro
 355 360 365

Ala Lys Phe Ile Thr Ile Leu Ser Leu Ser Tyr Leu Gly Arg His Thr
 370 375 380

Thr Gln Ala Ala Ala Leu Leu Leu Ala Gly Gly Ala Ile Leu Ala Leu
 385 390 395 400

Thr Phe Val Pro Leu Asp Leu Gln Thr Val Arg Thr Val Leu Ala Val
 405 410 415

Phe Gly Lys Gly Cys Leu Ser Ser Ser Phe Ser Cys Leu Phe Leu Tyr
 420 425 430

Thr Ser Glu Leu Tyr Pro Thr Val Ile Arg Gln Thr Gly Met Gly Val
 435 440 445

Ser Asn Leu Trp Thr Arg Val Gly Ser Met Val Ser Pro Leu Val Lys
 450 455 460

Ile Thr Gly Glu Val Gln Pro Phe Ile Pro Asn Ile Ile Tyr Gly Ile
 465 470 475 480

Thr Ala Leu Leu Gly Gly Ser Ala Ala Leu Phe Leu Pro Glu Thr Leu
 485 490 495

Asn Gln Pro Leu Pro Glu Thr Ile Glu Asp Leu Glu Asn Trp Ser Leu
500 505 510

Arg Ala Lys Lys Pro Lys Gln Glu Pro Glu Val Glu Lys Ala Ser Gln
515 520 525

Arg Ile Pro Leu Gln Pro His Gly Pro Gly Leu Gly Ser Ser
530 535 540

<210> 11
<211> 554
<212> PRT
<213> Homo sapiens

<400> 11

Met Ala Phe Gln Asp Leu Leu Gly His Ala Gly Asp Leu Trp Arg Phe
1 5 10 15

Gln Ile Leu Gln Thr Val Phe Leu Ser Ile Phe Ala Val Ala Thr Tyr
20 25 30

Leu His Phe Met Leu Glu Asn Phe Thr Ala Phe Ile Pro Gly His Arg
35 40 45

Cys Trp Val His Ile Leu Asp Asn Asp Thr Val Ser Asp Asn Asp Thr
50 55 60

Gly Ala Leu Ser Gln Asp Ala Leu Leu Arg Ile Ser Ile Pro Leu Asp
65 70 75 80

Ser Asn Met Arg Pro Glu Lys Cys Arg Arg Phe Val His Pro Gln Trp
85 90 95

Gln Leu Leu His Leu Asn Gly Thr Phe Pro Asn Thr Ser Asp Ala Asp
100 105 110

Met Glu Pro Cys Val Asp Gly Trp Val Tyr Asp Arg Ile Ser Phe Ser
115 120 125

Ser Thr Ile Gly Asp Leu Lys Trp Asp Leu Val Cys Asp Ser Gln Ser
130 135 140

Leu Thr Ser Val Ala Lys Phe Val Phe Met Ala Gly Met Met Leu Gly
145 150 155 160

Gly Ile Leu Gly Val His Leu Ser Asp Arg Phe Gly Arg Ser Phe Val
165 170 175

Leu Arg Trp Cys Tyr Leu Gln Val Ala Ile Val Gly Thr Cys Ala Ala
180 185 190

Leu Ala Pro Thr Phe Leu Ile Tyr Cys Ser Val Arg Phe Leu Ser Gly
195 200 205

Ile Ala Ala Met Ser Phe Ile Thr Asn Thr Ile Met Leu Ile Ala Glu
210 215 220

Trp Ala Thr His Arg Phe Gln Ala Met Gly Ile Thr Leu Gly Met Cys
225 230 235 240

Pro Ser Gly Ile Ala Phe Met Thr Leu Ala Gly Leu Ala Phe Ala Ile
245 250 255

Arg Asp Trp His Ile Leu Gln Leu Val Val Ser Val Pro Tyr Phe Val
260 265 270

Ile Phe Leu Thr Ser Ser Trp Leu Leu Glu Ser Ala Arg Trp Leu Ile
275 280 285

Ile Asn Asn Lys Pro Glu Glu Gly Leu Lys Glu Leu Arg Lys Ala Ala
290 295 300

His Arg Ser Gly Met Lys Asn Ala Arg Asp Thr Leu Thr Leu Glu Ile
305 310 315 320

Leu Lys Ser Thr Met Lys Lys Glu Leu Glu Ala Ala Gln Lys Lys Lys
325 330 335

Pro Ser Leu Cys Glu Met Leu His Met Pro Asn Ile Cys Lys Arg Ile
340 345 350

Ser Leu Leu Ser Phe Thr Arg Phe Ala Asn Phe Met Ala Tyr Phe Gly
355 360 365

Leu Asn Leu His Val Gln His Leu Gly Asn Asn Val Phe Leu Leu Gln
370 375 380

Thr Leu Phe Gly Ala Val Ile Leu Leu Ala Asn Cys Val Ala Pro Trp
 385 390 395 400

Ala Leu Lys Tyr Met Asn Arg Arg Ala Ser Gln Met Leu Leu Met Phe
 405 410 415

Leu Leu Ala Ile Cys Leu Leu Ala Ile Ile Phe Val Pro Gln Glu Met
 420 425 430

Gln Thr Leu Arg Glu Val Leu Ala Thr Leu Gly Leu Gly Ala Ser Ala
 435 440 445

Leu Ala Asn Thr Leu Ala Phe Ala His Gly Asn Glu Val Ile Pro Thr
 450 455 460

Ile Ile Arg Ala Arg Ala Met Gly Ile Asn Ala Thr Phe Ala Asn Ile
 465 470 475 480

Ala Gly Ala Leu Ala Pro Leu Met Met Ile Leu Ser Val Tyr Ser Pro
 485 490 495

Pro Leu Pro Trp Ile Ile Tyr Gly Val Phe Pro Phe Ile Ser Gly Phe
 500 505 510

Ala Phe Leu Leu Leu Pro Glu Thr Arg Asn Lys Pro Leu Phe Asp Thr
 515 520 525

Ile Gln Asp Glu Lys Asn Glu Arg Lys Asp Pro Arg Glu Pro Lys Gln
 530 535 540

Glu Asp Pro Arg Val Glu Val Thr Gln Phe
 545 550

<210> 12
 <211> 541
 <212> PRT
 <213> Homo sapiens

<400> 12

Met Ala Phe Glu Glu Leu Leu Ser Gln Val Gly Gly Leu Gly Arg Phe
 1 5 10 15

Gln Met Leu His Leu Val Phe Ile Leu Pro Ser Leu Met Leu Leu Ile

20

25

30

Pro His Ile Leu Leu Glu Asn Phe Ala Ala Ala Ile Pro Gly His Arg
 35 40 45

Cys Trp Val His Met Leu Asp Asn Asn Thr Gly Ser Gly Asn Glu Thr
 50 55 60

Gly Ile Leu Ser Glu Asp Ala Leu Leu Arg Ile Ser Ile Pro Leu Asp
 65 70 75 80

Ser Asn Leu Arg Pro Glu Lys Cys Arg Arg Phe Val His Pro Gln Trp
 85 90 95

Gln Leu Leu His Leu Asn Gly Thr Ile His Ser Thr Ser Glu Ala Asp
 100 105 110

Thr Glu Pro Cys Val Asp Gly Trp Val Tyr Asp Gln Ser Tyr Phe Pro
 115 120 125

Ser Thr Ile Val Thr Lys Trp Asp Leu Val Cys Asp Tyr Gln Ser Leu
 130 135 140

Lys Ser Val Val Gln Phe Leu Leu Leu Thr Gly Met Leu Val Gly Gly
 145 150 155 160

Ile Ile Gly Gly His Val Ser Asp Arg Phe Gly Arg Arg Phe Ile Leu
 165 170 175

Arg Trp Cys Leu Leu Gln Leu Ala Ile Thr Asp Thr Cys Ala Ala Phe
 180 185 190

Ala Pro Thr Phe Pro Val Tyr Cys Val Leu Arg Phe Leu Ala Gly Phe
 195 200 205

Ser Ser Met Ile Ile Ile Ser Asn Asn Ser Leu Pro Ile Thr Glu Trp
 210 215 220

Ile Arg Pro Asn Ser Lys Ala Leu Val Val Ile Leu Ser Ser Gly Ala
 225 230 235 240

Leu Ser Ile Gly Gln Ile Ile Leu Gly Gly Leu Ala Tyr Val Phe Arg

245										250					255				
Asp	Trp	Gln	Thr	Leu	His	Val	Val	Ala	Ser	Val	Pro	Phe	Leu	Gly	Leu				
			260					265					270						
Leu	Leu	Leu	Gln	Arg	Trp	Leu	Val	Glu	Ser	Ala	Arg	Trp	Leu	Ile	Ile				
		275					280					285							
Thr	Asn	Lys	Leu	Asp	Glu	Gly	Leu	Lys	Ala	Leu	Arg	Lys	Val	Ala	Arg				
	290					295					300								
Thr	Asn	Gly	Ile	Lys	Asn	Ala	Glu	Glu	Thr	Leu	Asn	Ile	Glu	Val	Val				
305					310					315					320				
Arg	Ser	Thr	Met	Gln	Glu	Glu	Leu	Asp	Ala	Ala	Gln	Thr	Lys	Thr	Thr				
				325					330					335					
Val	Cys	Asp	Leu	Phe	Arg	Asn	Pro	Ser	Met	Arg	Lys	Arg	Ile	Cys	Ile				
			340					345					350						
Leu	Val	Phe	Leu	Arg	Phe	Ala	Asn	Thr	Ile	Pro	Phe	Tyr	Gly	Thr	Met				
		355					360					365							
Val	Asn	Leu	Gln	His	Val	Gly	Ser	Asn	Ile	Phe	Leu	Leu	Gln	Val	Leu				
	370					375					380								
Tyr	Gly	Ala	Val	Ala	Leu	Ile	Val	Arg	Cys	Leu	Ala	Leu	Leu	Thr	Leu				
385					390				395						400				
Asn	His	Met	Gly	Arg	Arg	Ile	Ser	Gln	Ile	Leu	Phe	Met	Phe	Leu	Val				
				405					410					415					
Gly	Leu	Ser	Ile	Leu	Ala	Asn	Thr	Phe	Val	Pro	Lys	Glu	Met	Gln	Thr				
			420					425					430						
Leu	Arg	Val	Ala	Leu	Ala	Cys	Leu	Gly	Ile	Gly	Cys	Ser	Ala	Ala	Thr				
		435					440					445							
Phe	Ser	Ser	Val	Ala	Val	His	Phe	Ile	Glu	Leu	Ile	Pro	Thr	Val	Leu				
	450					455					460								
Arg	Ala	Arg	Ala	Ser	Gly	Ile	Asp	Leu	Thr	Ala	Ser	Arg	Ile	Gly	Ala				
465					470					475					480				

Ala Leu Ala Pro Leu Leu Met Thr Leu Thr Val Phe Phe Thr Thr Leu
485 490 495

Pro Trp Ile Ile Tyr Gly Ile Phe Pro Ile Ile Gly Gly Leu Ile Val
500 505 510

Phe Leu Leu Pro Glu Thr Lys Asn Leu Pro Leu Pro Asp Thr Ile Lys
515 520 525

Asp Val Glu Asn Gln Lys Lys Asn Leu Lys Glu Lys Ala
530 535 540